

# Task: Package Management

1. Update your package index
2. Install `htop` (system monitoring tool)
3. Check if `nginx` is installed. If not, list the command you would use to install it (DON'T actually install if you don't have `sudo`)
4. List all currently installed packages and save the output to `~/devops-lab/packages.txt`

Deliverable:

- Screenshot of package update and `htop` installation
- Text file with installed packages list

## Solution:

### 1. Update your package index

```
[pujan@ip-10-10-1-92 devops-lab]$ sudo dnf check-update
[sudo] password for pujan:
CentOS Stream 9 - BaseOS
CentOS Stream 9 - BaseOS
CentOS Stream 9 - AppStream
CentOS Stream 9 - AppStream
CentOS Stream 9 - Extras packages
                                          1.6 kB/s | 4.5 kB    00:02
                                          70 kB/s | 8.8 MB   02:08
                                         576 B/s | 4.6 kB    00:08
                                         98 kB/s | 25 MB   04:23
                                         249 B/s | 5.2 kB   00:21
aardvark-dns.x86_64          2:1.17.0-1.el9
at.x86_64                     3.1.23-13.el9
bind-l1bs.x86_64              32:9.16.23-35.el9
bind-license.noarch            32:9.16.23-35.el9
bind-utils.x86_64              32:9.16.23-35.el9
chrony.x86_64                 4.8-1.el9
cpp.x86_64                     11.5.0-14.el9
cups-filters.x86_64             1.28.7-25.el9
cups-filters-libs.x86_64        1.28.7-25.el9
dmidecode.x86_64               1:3.6-2.el9
dnf-plugins-core.noarch         4.3.0-24.el9
elfutils.x86_64                0.194-1.el9
                                          appstream
                                          baseos
                                          appstream
                                          appstream
                                          appstream
                                          baseos
                                          appstream
                                          baseos
                                          appstream
                                          appstream
                                          appstream
                                          baseos
                                          baseos
                                          baseos
```

### 2. Install `htop` (system monitoring tool)

```
[pujan@ip-10-10-1-92 devops-lab]$ sudo dnf install htop -y
[sudo] password for pujan:
Last metadata expiration check: 0:02:05 ago on Tue 18 Nov 2025 10:24:10 AM +0545.
Dependencies resolved.
=====
Package           Architecture Version       Repository      Size
=====
Installing:
  htop             x86_64      3.3.0-1.el9     epel           198 k
Installing dependencies:
  hwloc-libs       x86_64      2.4.1-5.el9     baseos        2.1 M
Transaction Summary
=====
Install 2 Packages

Total download size: 2.3 M
Installed size: 3.5 M
Downloading Packages:
(1/2): htop-3.3.0-1.el9.x86_64.rpm
(2/2): hwloc-libs-2.4.1-5.el9.x86_64.rpm
=====
Total
Extra Packages for Enterprise Linux 9 - x86_64
Importing GPG key 0x3228467C:
  Userid : "Fedora (epel9) <epel@fedoraproject.org>"
  Fingerprint: FF8A D134 4597 106E CE81 3B91 8A38 72BF 3228 467C
  From   : /etc/pki/rpm-gpg/RPM-GPG-KEY-EPEL-9
Key imported successfully
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing          :
  Installing       : hwloc-libs-2.4.1-5.el9.x86_64
  Installing       : htop-3.3.0-1.el9.x86_64
  Running scriptlet: htop-3.3.0-1.el9.x86_64
  Verifying        : hwloc-libs-2.4.1-5.el9.x86_64
  Verifying        : htop-3.3.0-1.el9.x86_64
=====
Installed:
  htop-3.3.0-1.el9.x86_64
                                         hwloc-libs-2.4.1-5.el9.x86_64
Complete!
```

3. Check if **nginx** is installed. If not, list the command you would use to install it (DON'T actually install if you don't have sudo)

To check if **nginx** is installed:

```
nginx -v OR rpm -qa | grep nginx
```

To install it:

```
sudo apt install nginx -y
```

```
[lpujan@ip-10-1-92 ~]$ sudo apt install nginx -y
[sudo] password for pujan:
sudo: apt: command not found
[lpujan@ip-10-1-92 ~]$ sudo yum install nginx -y
Last metadata expiration check: 0:07:52 ago on Tue 18 Nov 2025 10:24:10 AM +0545.
Dependencies resolved.
=====
          Package           Architecture      Version       Repository  Size
=====
Installing:
  nginx                  x86_64            2:1.20.1-24.el9    appstream   36 k
Installing dependencies:
  centos-logos-htpd      noarch          90.8-3.el9      appstream   1.5 M
  nginx-core              x86_64            2:1.20.1-24.el9    appstream   570 k
  nginx-filesystem        noarch          90.8-3.el9      appstream   9.3 k

Transaction Summary
=====
Install  4 Packages

Total download size: 2.1 M
Installed size: 4.3 M
Downloading Packages:
[WARNING] centos-logos-htpd-90.8-3.el9.noarch.rpm: Curl error (28): Timeout was reached for http://ftp.riken.jp/Linux/centos-stream/9-stream/AppStream/x86_64/os/Packages/centos-logos-htpd-90.8-3.el9.noarch.rpm [Resolving timed out after 30001 milliseconds]
[WARNING] nginx-1.20.1-24.el9.x86_64.rpm: Curl error (6): Couldn't resolve host name for http://ftp.riken.jp/Linux/centos-stream/9-stream/AppStream/x86_64/os/Packages/nginx-1.20.1-24.el9.x86_64.rpm [Could not resolve host: ftp.riken.jp]
[WARNING] nginx-core-1.20.1-24.el9.x86_64.rpm: Curl error (6): Couldn't resolve host name for http://ftp.riken.jp/Linux/centos-stream/9-stream/AppStream/x86_64/os/Packages/nginx-core-1.20.1-24.el9.x86_64.rpm [Could not resolve host: ftp.riken.jp]
(1/4): nginx-core-1.20.1-24.el9.x86_64.rpm                                6.5 kB/s | 570 kB  01:28
(2/4): nginx-filesystem-1.20.1-24.el9.noarch.rpm                         13 kB/s | 9.3 kB  00:00
(3/4): centos-logos-htpd-90.8-3.el9.noarch.rpm                         16 kB/s | 1.5 MB  01:38
[WARNING] nginx-1.20.1-24.el9.x86_64.rpm: Curl error (28): Timeout was reached for https://hkg.mirror.rackspace.com/centos-stream/9-stream/AppStream/x86_64/os/Packages/nginx-1.20.1-24.el9.x86_64.rpm [Operation too slow. Less than 1000 bytes/sec transferred the last 30 seconds]
(4/4): nginx-1.20.1-24.el9.x86_64.rpm                                311 B/s | 36 kB  01:59

Total                                         15 kB/s | 2.1 MB  02:21

Running transaction check
  Transaction check succeeded.
Running transaction test
  Transaction test succeeded.
Running transaction

```

4. List all currently installed packages and save them to ~/devops-lab/packages.txt

```
[pujan@ip-10-10-1-92 ~]$ rpm -qa > ~/devops-lab/pacakges.txt
[pujan@ip-10-10-1-92 ~]$ cat devops-lab/pacakges.txt
fonts-filesystem-2.0.5-7.el9.1.noarch
linux-firmware-whence-20250812-155.el9.noarch
hwdata-0.348-9.20.el9.noarch
xkeyboard-config-2.33-2.el9.noarch
tzdata-2025b-2.el9.noarch
liberation-fonts-common-2.1.3-5.el9.noarch
mesa-filesystem-25.0.7-2.el9.x86_64
hyperv-daemons-license-0-0.44.20190303git.el9.noarch
gnome-control-center-filesystem-40.0-42.el9.noarch
abattis-cantarell-fonts-0.301-4.el9.noarch
yelp-xsl-40.2-1.el9.noarch
mozilla-filesystem-1.9-30.el9.x86_64
google-noto-fonts-common-20201206-5.el9.noarch
google-noto-cjk-fonts-common-20230817-2.el9.noarch
foomatic-db-filesystem-4.0-72.20210209.el9.noarch
cups-filesystem-2.3.3op2-35.el9.noarch
```